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Example 3

A 24 year old female with type II skin tanned as described in examples 1 and 2 for five consecutive days. The results were a highly uniform, very dark tan. Her skin color was about 3 shades darker by the end of the week. The color was golden brown. The color remained 2 to 3 shades darker for about 4 days, and some color (about 1 shade) was observed after 7 days.

Discoveries

Hair is Not Turned Orange

Self-tanning lotions have been reported to turn body hair orange. The formulation and application of the present invention do not cause the hair to turn orange. First, the formulation does not penetrate the hair, but rather beads up on it. Next, it is applied in a very thin coat. The net result is that the hair does not turn orange.

Produces a Very Uniform Tan

The present invention facilitates the application of a thin, uniform film over the entire body. Consequently, the resulting coating and tan is far superior to manual application methods.

Bronzer Tends to Last Longer Than Expected

The bronzer provides immediate color and a method for observing the uniformity of the tan. The uniformity of the bronzer application is greatly enhanced because it is applied in a uniform thin film and its substantivity is enhanced because of deeper penetration into skin with the presence of a penetration enhancer.

Use of Ethoxy Diglycol as a Penetration Enhancer Makes the Tan Last Longer and More Uniform:

With the use of ethoxy diglycol, the duration of uniform intense tan has increased from an average of about 2 days to an average of about 4 days, and some color persists for up to 14 days.

Although preferred embodiments of the invention are illustrated in the Drawings and described in the Detailed Description, it will be understood that the invention is not limited to the embodiments disclosed, but is capable of numerous modifications and rearrangements of parts and elements without departing from the spirit of the invention.

What is claimed is:

1. An apparatus for coating substantially the entire human body with a predetermined human skin coating material comprising:

structure defining a coating chamber for receiving the entire body of a person to be coated;

a reservoir for receiving the predetermined human coating material in liquid form;

at least one nozzle positioned within the coating chamber for receiving the predetermined human skin coating liquid from the reservoir and for spraying the predetermined human skin coating liquid onto the skin comprising substantially the entire body of the person in the coating chamber;

apparatus for continuously moving the nozzle in a substantially horizontal plane relative to the body of the person to be coated thereby assuring a uniform coating of the predetermined human skin coating material over substantially the entire body of the person;

the structure defining the coating chamber further comprising apparatus for containing at least part of the spray from the nozzle which is not received on the skin of the person;

apparatus for circulating air independently of the liquid discharged from the nozzle and around the body of the

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person to be coated and thereby containing the remainder of the spray from the nozzle which is not received on the skin of the person; and

apparatus for disposing of the contained spray.

2. The apparatus for coating substantially the entire human body with a predetermined human skin coating material according to claim 1 further including:

at least one filter for removing excess spray from the circulating air.

3. The apparatus for coating the human body with a predetermined human skin coating material according to claim 1 further comprising:

apparatus for pressurizing the interior of the reservoir and thereby discharging liquid from the reservoir through the nozzle.

4. An apparatus for coating substantially the entire body of a person with a predetermined human skin coating material in liquid form comprising:

an enclosure defining a coating chamber for receiving the entire body of the person to be coated;

a reservoir for receiving the predetermined human skin coating liquid;

at least one nozzle positioned within the coating chamber for receiving the predetermined human skin coating liquid from the reservoir and for discharging the liquid onto the skin of the person within the coating chamber;

apparatus for causing the predetermined human skin coating liquid to flow from the reservoir through the nozzle for discharge in the form of a spray;

apparatus for continuously moving the nozzle in a substantially horizontal plane relative to the body of the person to be coated thereby assuring a uniform coating of the predetermined human skin coating material over substantially the entire body of the person;

the structure defining the coating chamber further comprising apparatus for containing excess spray from the nozzle which is not received on the skin of the person;

apparatus for disposing of the contained excess spray;

apparatus for circulating air through the coating chamber independently of the discharge of liquid from the nozzle and around the body of the person therein during the discharge of the predetermined human skin coating liquid from the nozzle; and

at least one filter for removing excess spray from the circulating air.

5. A method for coating substantially the entire human body with a predetermined human skin self tanning material comprising the steps of:

providing a coating chamber for receiving the entire body of a person to be coated;

providing a reservoir for receiving the predetermined human skin self tanning material in liquid form;

providing at least one nozzle positioned within the coating chamber;

discharging the predetermined human skin self tanning liquid from the reservoir through the nozzle and thereby spraying the predetermined human skin self tanning liquid onto the skin comprising substantially the entire body of the person in the coating chamber;

continuously moving the nozzle in a substantially horizontal plane relative to the body of the person to be coated thereby assuring a uniform coating of the predetermined human skin self tanning material over substantially the entire body of the person;

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containing at least part of the spray from the nozzle which is not received on the skin of the person;
 circulating air independently of the liquid discharged from the nozzle and around the body of the person to be coated and thereby containing the remainder of the spray from the nozzle which is not received on the skin of the person; and

disposing of the contained spray.

6. The method for coating substantially the entire human body with a predetermined human skin self tanning material according to claim 5 further including:

providing at least one filter for removing excess spray from the circulating air.

7. The method for coating the human body with a predetermined human skin self tanning material according to claim 5 further comprising:

pressurizing the interior of the reservoir and thereby discharging liquid from the reservoir through the nozzle.

8. A method for coating substantially the entire body of a person with a predetermined human skin self tanning material in liquid form comprising the steps of:

providing an enclosure defining a coating chamber for receiving the entire body of the person to be coated;

providing a reservoir for receiving the predetermined human skin self tanning liquid;

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providing at least one nozzle positioned within the coating chamber for receiving the predetermined human skin self tanning liquid from the reservoir and for discharging the liquid onto the skin of the person within the coating chamber;

causing the predetermined human skin self tanning liquid to flow from the reservoir through the nozzle for discharge in the form of a spray;

continuously moving the nozzle in a substantially horizontal plane relative to the body of the person to be coated thereby assuring a uniform coating of the predetermined human skin self tanning material over substantially the entire body of the person;

containing excess spray from the nozzle which is not received on the skin of the person;

disposing of the contained excess spray;

circulating air through the coating chamber independently of the discharge of liquid from the nozzle and around the body of the person therein during the discharge of the predetermined human skin self tanning liquid from the nozzle; and

filtering the circulating air to remove excess spray therefrom.

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